MAXIMUM ZS: TABLES 41.2, 41.3 AND 41.4

WHICH TABLE GIVES THE MAXIMUM ZS FOR YOUR DEVICE?

Every protective device has a **maximum permitted Zs** — the highest loop impedance it can still tolerate and disconnect in time. The values are tabulated in Chapter 41, and **which table you use depends on the device and the circuit type**. This is a classic trap.

TABLE	DEVICES	CIRCUITS	TIME
41.2	**Fuses** — BS 88-2, BS 88-3, BS 3036, BS 1362	**Final**, within 411.3.2.2	0.4 s
41.3	**Circuit breakers** — BS EN 60898, RCBOs	Final **and** distribution	0.4 s & 5 s
41.4	**Fuses** — same list as 41.2	**Distribution**, and final circuits under 411.3.2.3	5 s

> ✋ **41.2 and 41.4 cover the same fuses.** 41.2 is fuses at 0.4 s; 41.4 is fuses at 5 s, for distribution circuits and for final circuits under 411.3.2.3. This exact question catches people out, by sending them to the wrong table. Highlight **"0.4 s"** and **"5 s"** in the two headings. Table 41.4 (5 s) is for distribution circuits and for final circuits under 411.3.2.3.

Worked example: *"What is the tabulated earth fault loop impedance for a 63 A BS 88-2 (gG) fuse supplying a **distribution circuit**?"* → distribution means 5 s means **Table 41.4** → 63 A row → **0.78 Ω**.

THE ABC TRAP IN TABLE 41.3

> ✋ Table 41.3 labels its circuit-breaker column groups **a, b, c** — but those letters mean **type B, type C and type D**. So column **a = type B**, **b = type C**, **c = type D**. Read the row heading, not the letter, or you'll price a type C answer for a type B question.

Values all from Table 41.3:

DEVICE	MAX ZS (TABULATED)
Type B, 16 A	2.73 Ω
Type B, 50 A	0.87 Ω
Type C, 32 A	0.68 Ω

The four points to memorise.

1. Every circuit has a **Zs**.
2. Every circuit has an **overcurrent protective device** (an OCPD) — not every circuit needs an RCD, but every circuit needs overcurrent protection.
3. Every OCPD has a **maximum Zs**.
4. If the circuit's Zs **does not exceed** that maximum, **ADS will be achieved**.

Table 41.2 · fuses, 0.4 s

Table 41.3 · circuit breakers (a = type B, b = type C, c = type D)

Table 41.4 · fuses, 5 s (distribution circuits, and final circuits under 411.3.2.3)

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